

Amendments to the Claims

1-121. (Cancelled).

122. (Allowed) Purified cage molecules consisting of carbon atoms.

123. (Allowed) Purified cage molecules consisting of carbon atoms in solid form.

124. (Allowed) Crystalline cage molecules consisting of carbon atoms.

125. (Canceled)

126. (Allowed) A macroscopic amount of purified cage molecules consisting of carbon atoms.

127. (Currently amended) A formed or molded product comprising purified C₆₀ and/or C₇₀ a cage moiety consisting of carbon atoms.

128. (Canceled)

129. (Canceled)

130. (Allowed) A free-flowing particulate comprising cage molecules consisting of carbon atoms in microcrystalline form.

131. (Allowed) A solid comprising a macroscopic amount of cage molecules consisting of carbon atoms in crystalline form.

132. (Canceled)

133. (Currently amended) A solid carbon product Purified cage molecules consisting of carbon atoms prepared by the process comprising: (a) vaporizing a carbon source in the presence of an inert quenching gas under conditions effective to provide a sooty carbon product comprising cage molecules consisting of carbon atoms; (b) depositing the sooty carbon product on a collecting substrate; (c) removing the sooty carbon product from the collecting substrate; (d) contacting the sooty carbon product with a non-polar organic solvent effective to dissolve said cage molecules to form a solvnt solution, said solvent being present in an amount effective to

dissolve the said cage molecules in said sooty carbon product; and (e) recovering from said resulting product formed when the sooty carbon product was contacted with said solvent solution a solid carbon product comprising cage purified cage molecules consisting of carbon atoms in a macroscopic amount.

134. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 in which the carbon in step (a) is vaporized in an evacuated reactor.

135. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 134 in which the carbon source of step (a) is vaporized in an evacuated bell jar.

136. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 in which the carbon source subject to vaporization in step (a) is graphite.

137. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 in which the carbon source subject to vaporization in step (a) is graphitic rods.

138. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 wherein the carbon source is vaporized in step (a) through heating the carbon source by means of an electrical current of sufficient intensity to produce the sooty carbon product.

139. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 138 wherein the electrical current is about 100 amps.

140. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 wherein the inert quenching gas of step (a) is a noble gas.

141. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 133 wherein the carbon source is vaporized in step (a) at a pressure ranging from 50 torr to 400 torr.

142. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 141 wherein the carbon is vaporized in step (a) at approximately 100 torr.

143. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 133 wherein the carbon is vaporized in step (a) at a pressure ranging from about 2 to 3 atmospheres.

144. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 133 wherein the collecting substrate in step (b) is a glass surface.

145. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 140 wherein the inert gas is helium or argon.

146. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 133 wherein the non-polar organic solvent of step (d) is carbon disulfide, benzene, carbon tetrachloride or toluene.

147. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 146 wherein the solvent is benzene.

148. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 146 wherein the solvent is carbon tetrachloride.

149. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of carbon atoms~~ of claim 133 wherein recovery step (e) comprises evaporating the solvent.

150. (Currently amended) A ~~solid carbon product~~ Purified cage molecules consisting of carbon atoms prepared by the process comprising: (a) evaporating a carbon source in the presence of an inert quenching gas under conditions effective to produce a sooty carbon product containing cage molecules consisting of carbon atoms, said cage molecules being present in said sooty carbon product in sufficient concentration to allow a macroscopic amount of said cage molecules to be separated from said sooty product; (b) collecting the sooty carbon product produced therefrom; (c) subliming the ~~carbon product comprising~~ said cage molecules from the sooty carbon product; and (d) condensing the sublimed carbon product comprising said cage

molecules.

151. (Currently amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 150, wherein the said collecting substrate in step (b) is done on a glass surface.

152. (Canceled)

153. (Currently amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 152 150 wherein step (c) comprises heating said sooty carbon product comprising said cage molecules in a vacuum or inert atmosphere at effective sublimation temperatures to extract the carbon product comprising said cage molecules from said sooty carbon product.

154. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 150 in which the carbon source in step (a) is vaporized in an evacuated reactor.

155. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 154 in which the carbon in step (a) is vaporized in an evacuated bell jar.

156. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 150 in which the carbon subject to vaporization in step (a) is graphite.

157. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 150 in which the carbon subject to vaporization in step (a) is graphite rods.

158. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 150, wherein the carbon source in step (a) is vaporized by passing an electric current of sufficient intensity to produce a sooty carbon product.

159. (Currently Amended) The solid carbon product purified cage molecules consisting of carbon atoms of claim 158, wherein the electrical current is about 100 amps.

160. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of~~ carbon atoms of claim 150, wherein the inert quenching gas of step (a) is a noble gas.

161. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of~~ carbon atoms of claim 150, wherein the carbon source in step (a) is vaporized at a pressure ranging from 50 torr to 400 torr.

162. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of~~ carbon atoms of claim 161, wherein the carbon source is vaporized in step (a) at approximately 100 torr.

163. (Currently Amended) The ~~solid carbon product purified cage molecules consisting of~~ carbon atoms of claim 160, wherein the noble gas is helium or argon.

164. (New) An industrial paint pigment comprising C₆₀ and/or C₇₀.

165. (New) A lubricant comprising C₆₀ and/or C₇₀.